

CLAIMS

1. A vector for gene therapy comprising an expression vector for mammalian cells and a nucleic acid coding for a fusion protein of glucagon C-terminal side 19-29 amino acid peptide region and a desired protein region which should be produced in the body, which vector can produce said fusion protein in the mammalian cells.
2. The vector according to claim 1, wherein said glucagon C-terminal side 19-29 amino acid peptide region is ligated to the C-terminal of said desired protein region.
3. The vector according to claim 1 or 2, wherein said desired protein is a cytokine, a fusion protein comprising a cytokine and a constant region of immunoglobulin ligated to said cytokine, a growth factor, a hormone or a cell adhesion factor, or a receptor thereof.
4. The vector according to claim 3, wherein said cytokine or the receptor thereof is selected from the group consisting of interferons and receptors thereof, CTLA4, interleukins and receptors thereof.
5. A method for gene therapy comprising administering an effective amount of said vector for gene therapy according to any one of claims 1 to 4 to a mammal or cultured mammalian cells, in which expression of said desired protein in the body or in the cultured mammalian cells is desired.
6. The method according to claim 5, wherein said vector for gene therapy is administered to a mammal.
7. Use of the vector for gene therapy according to any one of claims 1 to 4 for the production of a drug for gene therapy.
8. A method for quantifying a desired protein produced in the body or in cultured cells by expression of said vector for gene therapy, comprising quantifying, by immunoassay, said glucagon C-terminal side 19-29 amino acid peptide region in a test sample collected from a mammal or cultured mammalian cells to which said vector for gene therapy according to any one of claims 1 to 4 was administered.

9. The method according to claim 8, wherein said test sample is collected from said mammal to which said vector for gene therapy was administered.

10. The method according to claim 9, wherein said test sample is a blood sample.

11. A label for labeling a desired protein produced by expression of an externally administered expression vector in the body of a mammal or in cultured mammalian cells, consisting essentially of glucagon C-terminal side 19-29 amino acid peptide.

12. A label for labeling a desired protein produced by expression of an externally administered expression vector in the body of a mammal, consisting essentially of glucagon C-terminal side 19-29 amino acid peptide.

13. A method for labeling a protein produced in the body or in cultured cells, comprising labeling a desired protein produced in the body or in cultured cells with glucagon C-terminal side 19-29 amino acid peptide by expressing said desired protein produced by expression of an externally administered expression vector in the body of a mammal or in cultured mammalian cells, as a fusion protein with said glucagon C-terminal side 19-29 amino acid peptide as a label.

14. The method according to claim 13, comprising labeling said desired protein produced in the body with glucagon C-terminal side 19-29 amino acid peptide by expressing said desired protein produced by expression of an externally administered expression vector in the body of a mammal, as a fusion protein with said glucagon C-terminal side 19-29 amino acid peptide as a label.

15. Use of glucagon C-terminal side 19-29 amino acid peptide as a label for a desired protein produced by expression of an externally administered expression vector in the body of a mammal or in cultured mammalian cells.

16. Use of glucagon C-terminal side 19-29 amino acid peptide as a label for a desired protein produced by expression of an externally administered expression vector in the body of a mammal.